

ABSTRACT

Methods and systems for managing multiple inputs that are capable of competing or contending for a particular or primary output are described. In one embodiment, the multiple inputs are managed through the use of a software-implemented matrix switch object, and an associated data structure that is used to program the switch object and resolve contention issues between the inputs. The matrix switch object can process the multiple inputs to provide a primary output. One implementation of the switch object uses virtual input and output pins to receive and provide data streams. One specific embodiment is used in connection with multi-media editing software that enables users build or define their own editing multi-media editing projects that incorporate multiple different user-selected clips, in the form of digital data streams, into an integrated project. Each clip can be defined in terms of one or more digital data streams, e.g. video and audio streams. One implementation method defines a first data structure that represents an editing project and processes the data structure to provide a second data structure that contains data that can be used to program the matrix switch object so that multiple switch inputs are routed to multiple switch outputs and contentions between the inputs for a primary output are resolved.